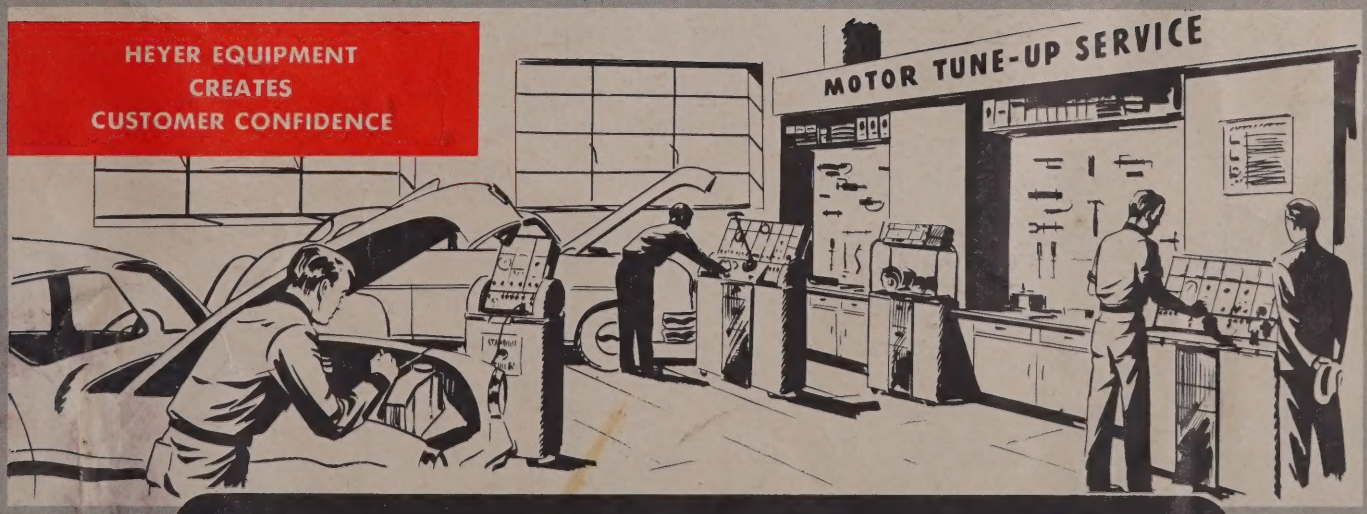
HEYER FACTORY APPROVED EQUIPMENT

OPERATING INSTRUCTIONS

FOR MODEL

MODEL 337
DYNAVISION ACCESSORY UNIT

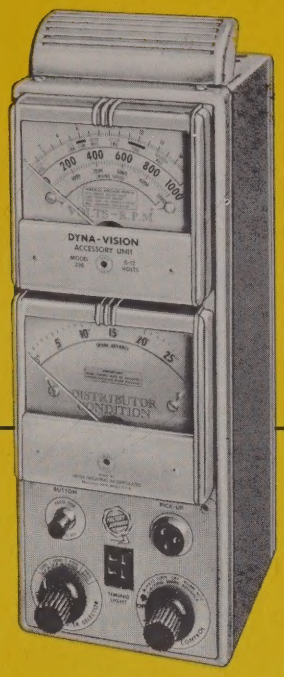


HEYER INDUSTRIES INCORPORATED

Belleville 9, New Jersey

OPERATING INSTRUCTIONS for Dyna-Vision Accessory Unit

MODEL 337



Model 316A Timing Light Attachment included with this unit.

MODEL 336
DYNA-VISION ACCESSORY UNIT

This unit provides instrumentation and accessory electronic equipment for the Model 335 Dyna-Vision Projector. It plugs into that unit so that no additional connections need be made for Tachometer or Voltage readings, Timing Light or A.C. input. Other tests available by adding Model 336 are as follows:

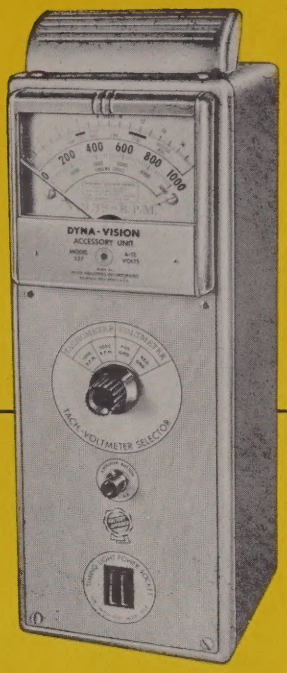
TACHOMETER 0-1000-5000 engine RPM. (A Tachometer with at least a 4″ scale is essential for Spark advance readings, carburetor tests and adjustments plus cylinder balance test.

BASIC ENGINE TIMING is provided for by Model 316A Power Timing Light which is included with Model 336

SPARK ADVANCE ON THE CAR can be instantly determined while the engine is operating.

IGNITION INPUT TEST is provided by the 0-18V scale which checks coil and regulator charging voltage, cranking volts and battery condition.

VALVE AND PISTON CHECKS A socket is provided for the Valve Check Attachment Model 336VC (not included with the Model 336). This pressure operated electrical pick-up connects by hose to the intake manifold and reacts to the breathing of the engine, which is influenced by valve piston, and cylinder condition. The picture on the Dyna-Vision Projector Screen indicates leaking, sticking or inproperly adjusted valves and also detects serious compression differences. Here is an essential test never before available in the field.



MODEL 337
DYNA-VISION ACCESSORY UNIT

This unit has been designed for those who do not want to check distributor spark advance on the car or to use the Valve Check or Sound Pick-up attachments.

The 0-1000-5000 RPM tachometer provided is essential for most engine checks and adjustments. The 0-18 volt scale makes it easy to check ignition input, battery, generator, regulator (voltage setting) starting and all low voltage connections. A socket is provided for the Timing Light Attachment Model 316A, which operates from the 335 test leads, but is not included with the 337 Unit.

TIMING LIGHT ATTACHMENT Model 316A

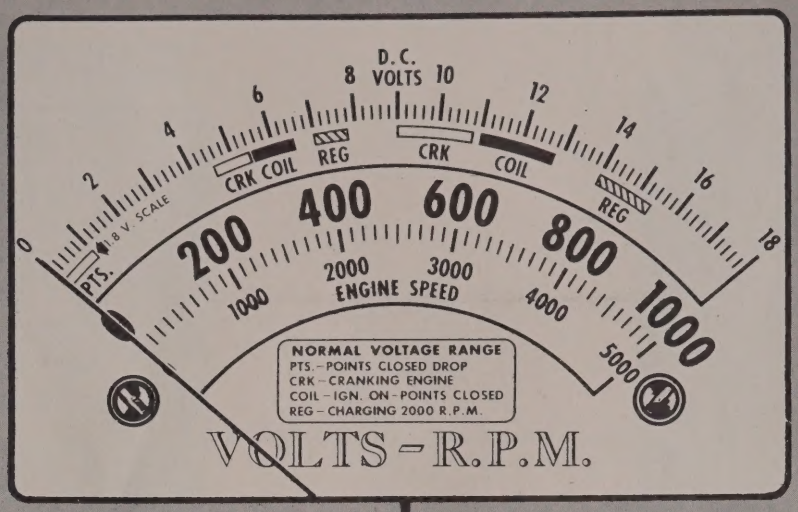
Powerful white light is provided by the Xenon flash tube which makes timing marks stand out even in broad daylight.

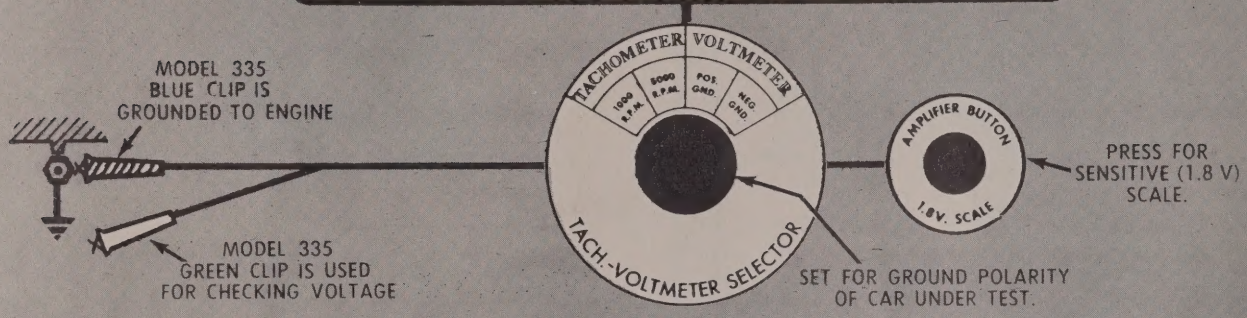
VALVE CHECK ATTACHMENT Model 336VC

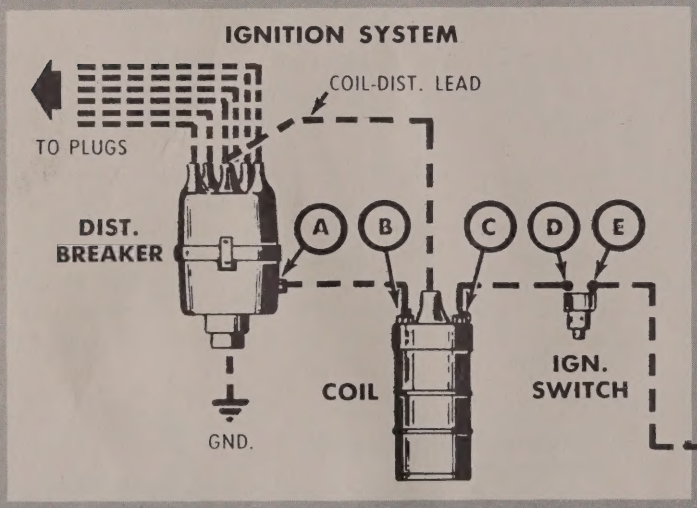
This is a special electrical pressure operated pick-up connected by hose to the intake manifold. The "breathing" of the engine is depicted on the Dyna-Vision Screen and is valuable in diagnosing mechanical condition of the engine.

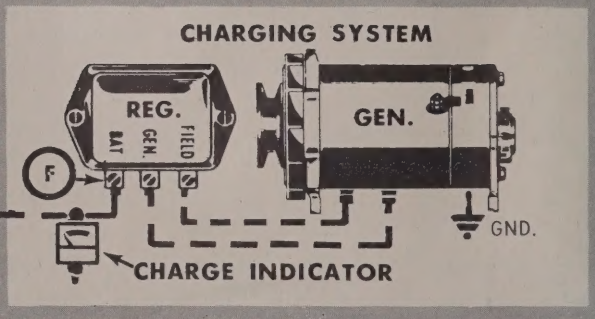
Tomorrow's Equipment Today!

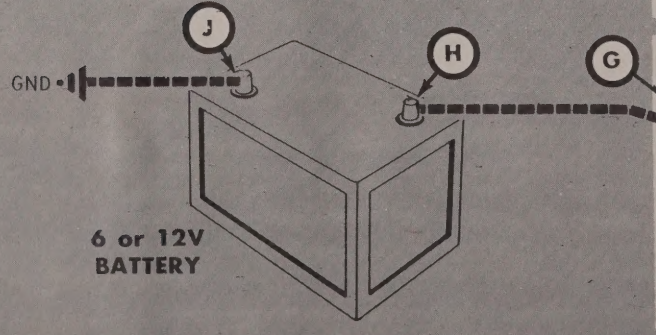
OPERATING INSTRUCTIONS for Dyna-Vision Accessory Unit

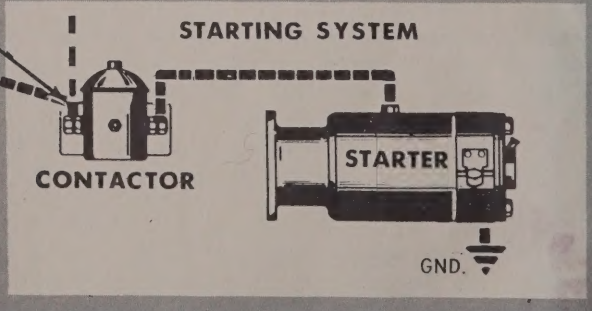












Low Voltage Circuit Check

The reason for including the Voltmeter in this accessory unit is to provide a means of checking the input to the ignition system. If it is low then the coil output will be low and there will be insufficient ignition reserve which will cause missing, hard starting, etc.

Except during cranking or at very low idle speeds, the voltage at the coil will be increased because the generator is charging the battery. Since you are measuring ignition reserve at 1000 RPM all coil output specifications must be based on coil input voltage under charging conditions. Therefore, if you find low coil KV output one of the checks must be to see if the generator is charging and that the regulator is set approximately correct and battery is OK.

REMEMBER if the Dyna-Vision test indicates low coil KV output but no other coil faults when tested you must check coil input as well as charging voltage, and correct any unsatisfactory condition before you replace the coil. Otherwise you will sell the customer a coil he doesn't need and still not correct the real trouble.

Test Connections

If you have been using the Dyna-Vision Projector on the car leave all connections "as is". If not, it is only necessary to connect the BLUE clip to the engine. The GREEN clip is used for all low voltage circuit checks.

Set TEST SELECTOR on 335 Unit to "0-18 volt scale" position.

Set TACH-VOLTMETER SELECTOR on 337 Unit to ground polarity of car.

Test Procedure

1. With engine stopped, remove "Coil-Dist. Lead" from either the Dist. Cap or Coil tower.
2. Connect GREEN clip to "B" (See Fig. 2).
3. Crank engine until it stops with breaker points closed as indicated by a low voltmeter reading. Car ignition switch must be "on".
4. Press AMPLIFIER BUTTON for 1.8 V Scale. Pointer should remain in block marked "PTS". If reading is out of block (over 1/10 V) move GREEN clip to "A" to see if loss is in lead "A B" or in points.
5. Connect GREEN clip to "C" being sure to be on the ignition switch side of coil resistor if any is used. Reading will not be below blocks marked "Coil" unless there is excessive loss in the circuit. Try "wiggling" ignition key to check condition of ignition switch contacts. (To pin-point resistance causing loss move GREEN clip to "D" "E" "F" "G" and "H" until located).
6. With GREEN clip still at "C", crank engine and observe readings. If below blocks marked "CRK" either battery is low, engine cold or starter defective. Check battery with a HEYER Battery Tester Model 305B (hand held) or BSF-1C which is an OCV Meter in a plastic water servicer.

   A low battery should be charged and capacity tested and, if necessary, replaced. Starter condition can be quite accurately determined by listening to the speed of cranking when battery is half charged or more, and in good condition.

7. Replace "Coil-Dist. Lead", start engine and set at 1000 RPM. GREEN clip is still kept at "C" unless excessive loss was found in test 5 above. In that case connect to "BAT" terminal of Regulator.

   If Generator is charging and Regulator Set approximately correct, voltage will immediately rise above 6 or 12 volts as the case may be. In a few minutes the voltage will stop rising, and, if battery is half charged or more, this will represent the setting of the voltage limitor of the regulator. (Note: This test cannot be made on a discharged or defective battery). The reading should be in the blocks marked "REG" to be satisfactory for ignition purposes and for determining Coil KV output accurately.

   If too low car may be hard to start, battery will run down and plugs may miss due to lowered Coil KV.

   If too high battery will be overcharged, and life of breaker points and lights shortened.

Important Note

This is primarily an ignition input check to be sure there is sufficient voltage at the coil primary for proper engine operation. For adjusting and checking the complete voltage Regulator, checking starters and generators for output and battery for state of charge and cell condition we recommend our Model 307 Battery, Starter, Regulator Tester.

Connections for Tachometer and Timing Light

If you are only going to use the Timing Light and Tachometer, and not the Dyna-Vision Projector, it is only necessary to connect the RED plug pick-up to the #1 plug, the BLUE clip to ground on the engine and the A.C. LEAD to the proper power source. Otherwise, connections are made as covered in Fig. 6 of the Model 335 Dyna-Vision Projector Instructions.

How to use the Tachometer

The TACH-VOLTMETER SELECTOR of the 337 Unit should be set to the desired range.

When the engine is started the Tachometer will read in all positions of the TEST SELECTOR of the 335 Unit, except "off".

Note

Inability to get steady Tachometer readings or regular Timing Light flashes may indicate a shorted #1 plug - try another plug to check on this.

How to use the Power Timing Light Attachment Model 316A

The Timing Light operates only when the Model 335 TEST SELECTOR is in the "Timing Light and Adv." position.

The Model 337 "TACH-VOLTMETER SELECTOR" should be in the desired RPM range. Timing Light is plugged in the socket provided on the 337 Unit. This light is then used in the same manner as any other power timing light.

Removing Timing Light from Socket

The plug is designed to lock in position so it cannot be pulled out by the tension of the Koil Kord while in use.

To remove plug, press the springs on the side together to release the lock.

TEMPORARY

SERVICE AND WARRANTY INFORMATION

DYNA-VISION AND MOTOR TUNE-UP EQUIPMENT (MTE)

One Year Warranty

The Projector Tube and all parts, except light bulbs, vacuum tubes and fuses are guaranteed against defects in material and workmanship for one year from date of receipt by the original user, subject to the conditions stated below:

1. DYNA-VISION PROJECTOR TUBE 24-MONTH PRO-RATA WARRANTY

If a failure occurs after twelve months and not more than 24 months from date of receipt by the original user, and failure was not caused by accident, misuse or improper packing of the returned unit, a pro-rata adjustment will be made on the basis of charging the user 1/24th of the then current list price of the tube for each month of service since date of receipt of the tube by the user. Labor charges incurred in making this replacement will be the user's responsibility.

2. WHAT TO DO IN CASE OF TROUBLE

Request user to check installation and operating instructions carefully, as the equipment may not be at fault. If still inoperative after these checks, ask him to review trouble-shooting instructions (see Yellow Pages — Parts and Service). These instructions will frequently locate the trouble if it is caused by power failure, wrong or poor connections, faults in the item being serviced, etc.

3. HOW TO HANDLE SERVICE WITH OUR UNIT REPLACEMENT PLAN TEMPORARY

Until further notice, our Distributors and Representatives are authorized to replace any inoperative Motor Tune-Up or Dyna-Vision equipment from stock on hand or by wiring Heyer Industries for a replacement unit. This is the fastest way to give service and get the inoperative units in our plant so we can determine the reason for failure.

With a new line of equipment, despite years of development and months of field tests, certain unforeseen faults will show up due to use, shipping, component failures, rough handling, etc., and we want to know about these as quickly as possible. If a local service depot is used, this information will frequently be lost to us or will be received in such an incomplete manner that proper action cannot be taken.

From this returned material, we take immediate steps to make necessary corrections in design, material inspections and, sometimes, operating instructions. With this information of field failures, we are preparing a complete trouble-shooting and repair manual for our service depots. This will be mostly television shops for Dyna-Vision, and within a few months, we will send you a list of our authorized MTE depots, and at that time local service can be substituted for this temporary unit replacement plan.

Transportation charges will be paid both ways by us during this period of Factory replacement.

Reconditioning charges will not be made unless damage is caused by accidents, alterations, unnecessary rough usage or by improper packing of returned units.

Accounting procedures

Replacement units shipped from our plant will be billed in the normal manner and full credit issued for returned units when received at our plant.

Marking returned units

Returned units should be properly identified and tagged. Whenever possible, we suggest you use our Warranty Claim Tag HY-55 or HY-57 for this purpose. Serial numbers should always be used to avoid mistakes.

4. WHERE TO RETURN INOPERATIVE UNITS

These should be sent back to HYPROD SERVICE INCORPORATED, Belleville 9, New Jersey, our service affiliate.

Printed in U.S.A. 93057

This seal assures the purchaser that the design of our Testing Units follows the recommendations of the Engineering and Service Departments of Major Car and Equipment Manufacturers who have recognized it as satisfactory for testing and adjusting their products.

B. M. Heyer

President